

Rachel M. Frame. A Comparison of Use Between E-books Acquired in Bulk Packages, Individual Titles, and User Requested Titles at a Health Sciences Library. A Master's Paper for the M.S. in L.S degree. April, 2014. 24 pages. Advisor: Rebecca Vargha.

E-books are being acquired at higher and higher rates, especially in disciplines such as the health sciences. Although there have been several studies that analyze the difference in use between electronic and print books, including in health sciences libraries, there has been less focus on the different ways that electronic books might be acquired and how that impacts use. This study analyzed usage and purchase data of e-books at an academic health sciences library to determine whether books purchased in packages, on a individual title-by-title basis, or user requests had the highest instances of use. This information will assist health sciences librarians with book selection and acquisition. It will also provide insight into the use of electronic books generally.

## Headings:

Electronic books

Medicine -- Information services -- Use studies

Medical libraries -- Acquisitions

Medical libraries -- Book selection

A COMPARISON OF USE BETWEEN E-BOOKS ACQUIRED IN BULK  
PACKAGES, INDIVIDUAL TITLES, AND USER REQUESTED TITLES AT A  
HEALTH SCIENCES LIBRARY.

by  
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## Introduction

E-books have been resources in some academic libraries since the late 1990s, with many discussions about cost, ease of use, remote access, and whether or not student and faculty would embrace the e-books purchased by the libraries. Early e-book usage was slow to be adopted by academic libraries generally. According to Romero (2011), “However, the response to digital books has been mixed, taking into consideration, that they were introduced in libraries, in the same years as journals, but with a lower level of acceptance by users.” Although electronic journal use increased rapidly across disciplines, e-book use was much slower. Romero (2011) states, “This reaction was due, inter alia, to the lack of specific reading devices allowing documents with a large number of pages to be read comfortably as in the case of books.” E-book use was not easy or convenient, especially in comparison to the electronic journals. This has been a cause for some faculty and student complaints about the e-book format. In fact according to Appleton (2004), “As an innovative resource, the majority of users had spoken enthusiastically of the potential and the advantages of electronic books.” This study explains that the users were excited about the idea of e-books, they did not find them as easy to use as they had hoped. (Appleton. 2004) “However, the discussions of this student midwives focus group would suggest...students are less likely to see the potential of a resource, which takes time to search and navigate effectively, when they are familiar with using alternative printed formats.” There was too much to learn about how to use and search the e-books, that print use was easier than trying to learn a new system.

Although it is ten years later and improvements have been made, ease of use and the discoverability of e-books remain major factors in whether the faculty, students, and health care providers will use electronic books.

What is an e-book? According to Walters (2013), “Most definitions include several elements: digital format, online delivery, text (with or without audiovisual content), monographic rather than serial publication, and accessibility through an optical display.” For this research paper, the Walters definition of an e-book will be utilized in terms of scope and definition. Lamothe (2013) states that not even the word is standardized. “There has been much confusion throughout the literature regarding the definition of an electronic book.” Because of this careful consideration has to be made to clarify what is being studied.

Lamothe (2013) explains the following:  
 “Both definition and descriptive terms have varied throughout the years, with e-book or ebook, electronic book, electronic text, or even e-text being commonly used. To avoid reader confusion that such variations have often caused, the term “e-book” will be strictly and consistently used throughout this paper.”

This paper also used the term e-book, as opposed to alternatives, although quotations preserve original wording. There is also debate about what is considered accessing an e-book. According to Lamothe (2013), “For the purpose of this study, a viewing has been defined as the act of either opening or downloading a page or chapter from an e-book.” Lamothe (2013) cautions “E-book publishers and aggregators have reported usages as accesses, downloads, or viewings. Furthermore, accesses, downloads, or viewings have been reported per page, per chapter, or per book.” Because of the variety of ways that e-book accesses have been reported and recorded, it is important to make sure that the method is the same for comparisons. According to Lamothe (2013), “There is,

obviously, just as much confusion over the reporting of e-book usage statistics as there is over its name and definition.” This makes studies harder to standardize than they otherwise might be.

E-book acquisition and use has grown rapidly in the past few years. According to Hodge (2013) at The University of Tennessee Library, “In the early days of e-book acquisitions, there were just two persons involved in the entire workflow, from trial to access.” But as e-book acquisition grew, this was no longer the case. Hodge (2013) “With this growth, two persons could no longer handle the workload. More and more titles became hidden, accessible only through collection-level entries in the catalog and the database list.” This was not just because of the purchase of large purchases of e-book packages.

According to Hodge (2013):

“Similar rapid growth can be seen in the purchase of e-books on a title-by-title basis. In 2007, only twenty e-book titles were ordered through Yankee Book Peddler (YBP), the Library’s primary monographic supplier.... In the past year, the number of e-books ordered through YBP skyrocketed to more than 1,200 titles.”

This growing area had lead to increased study in the past couple of years. Also according to Jackson, “The demand for e-books is steadily increasing, so library acquisitions staff must establish new best practices for incorporating e-books and the variety of challenges they present into their daily workflow.” E-book acquisition is a rapidly growing area, which has only begun to be studied.

One of the major drivers of e-book purchasing is the desire of patrons to have remote access to materials, either because they do not live close to the library, or because they do not have time to visit the library in order to check out print materials. “The

electronic format of e-books makes them broadly accessible to users, regardless of physical location, while simultaneously circumventing the space crunch that is common in the modern academic library.” According to Lamothe (2013), shifting perceptions towards electronic material also may be contributing to increased e-book usage.

“Undergraduate student affinity to freely available and nonauthoritative web resources may have influenced the relationship they exhibited regarding e-book usage.” The undergraduate students have not developed as high a level of evaluation of resources that are used, because of this they prioritize searching strategies that they are familiar with and fast access to materials. “The vast majority of undergraduate students would rather use the convenience of the web to find assignment- related information instead of exploiting library-purchased authoritative online research tools, especially search engines such as Google.” This shift has drawn undergraduate students towards the convenience of e-book usage.

At the same time there are concerns that e-books will not be readily accessible to those without regular computer access. According to Hoseth (2012), “Several individuals also expressed concerns related to accessibility—specifically, that e-books might not be accessible to all individuals equally, particularly those with limited financial means or college students who do not own their own computers.” These concerns need to be kept in mind while the library seeks to purchase more books in electronic formats.

Other factors such as budget impact the use of e-books. According to Folb if there are economic reasons to reduce duplication (2011), “...a combination of promoting the e-book collection to increase awareness and educating users to increase user e-book skills may increase the adoption of e-books by those who prefer print.” Duplication is not

the only monetary concern. According to Romero (2011), “Although the price of a printed book is the same for both consumers, and libraries, the arrival of e-books has led to a change, since libraries are required to pay more for books given the multiple use of this resource.” Naturally libraries want to utilize budgets effectively and in a manner that is fiscally responsible.

Sometimes there is only one format to choose from both the libraries and patrons perspective. Also, according to Folb (2011), “This indicates some user groups may not be using the e-books because the collection does not include what they want.” If this is the reason that e-books are not getting used then collecting those items is essential.

“Collection analysis and focus group discussions with representatives of different user groups could help identify strengths and weaknesses in the collection by topic area and specialty.” Sometimes more e-books or print books are ordered in certain subject. In that case the users will use the format available most of the time, whether or not it is preferred.

E-book acquisition has become a part of the acquisitions workflow in many academic libraries with both bulk packages and individual titles. According to Romero (2011), “The increasing popularity of e-books involves multiple changes in almost all aspects relating to the publishing industry and to consumer and reading habits.” Due to the focus on user demand in this discussion, it is interesting to look at which acquisition methods work best for patrons based on circulation statistics. According to Lamothe (2013), Large "viewings per e-book" and "searches per e-book" ratios were observed when e-books were purchased selectively, on a title-by-title basis. However, it should not yet be concluded that a more selective method of purchase would necessarily be

accompanied by an increase in e-book usage.” Instead Lamothe (2013) states, “In fact, 2009 and 2010 recorded the largest usage ratios, even with the large bulk purchases in 2008.” This comparison of access between these two methods of purchase is the specific focus of this paper. Because the health sciences are subject areas that use e-books heavily, access statistics at the UNC Chapel Hill Health Sciences Library have been used.

### Literature Review

With the rise of patron-driven-acquisitions, having a core collection may no longer be a priority.

As Tyler (2013) says:

“But by far the most positive aspect of PDA most frequently and consistently reported in the library literature has been that the print books and other similar materials (print theses and dissertations, proceedings, and so forth) requested by patrons and purchased through the programs circulate often much more than do books acquired via traditional avenues, such as approval plans or librarians’ orders.”

Jones (2011) also emphasizes the importance of patron-driven-acquisition at the University of Arizona,

According to Jones (2011):

“At the UA Libraries, the requirements of our strategic plan—shaped by customer needs and expectations, a challenging fiscal environment, fundamental technological changes, and dramatic changes in business and supply-chain management—mean that we must move quickly to a new system of on-demand information delivery in which patron-driven-acquisition is a major component.”

Tyler (2013) also cautions against embracing patron-driven-acquisition as the only method. “A much simpler argument against such outsourcing... is that book vendors demonstrably do not anticipate the needs of particular libraries’ patrons, as expressed by circulations, as well as do the patrons themselves and the local librarians who serve



them.” Many implementations of PDA are taking the fact that the vendors do not know what the patrons want into account, via approval plans, or other methods.

Another consideration in collection development is the difference between e-book publication and print publication. Students and faculty often expect that e-books should be faster to publish than their print counterparts. “One wondered whether e-books may be more instantly available (and current) due to a potentially shorter turnaround time between authorship and publication.” This mirrors the earlier discussion on whether a book should be acquired in paperback or in cloth. According to Forzetting (2012) University of Colorado Boulder is one such library. “CU has purchased some large collections of subject-specific content and publisher e-book collections from Springer and Duke University Press, but they are looking for ways to purchase more front list e-books on a title-by-title basis.” Unfortunately the library ran into issues with the publication dates of many e-book, relative to their print versions. Forzetting (2012) “Wiersma remarked on the frustration she felt when she purchased a print book for the collection only to find out afterward that an e-book version would become available only a month or two later.” In order to combat these frustrations, guidelines had to be added into the approval plan as to when to get the print version, and when to wait on the e-book. “As e-books become the increasingly preferred format at the University of Colorado and with very little information from the publishers themselves explaining their publishing sequences or predicting e-book release dates, the approval plan must establish appropriate format guidelines.” They had to establish priorities and a balance between getting the book as quickly as possible, and getting it in the preferred format.

Recent trends in approval plans take into account e-books. According to Buckley (2011) “One of the major benefits of the ebook approval plan over a traditional approval plan was the power of the selector to refuse a title on approval and preview the full text of the ebook prior to its acquisition.” This ability to preview, avoids the shipping issues of print materials. “Combining the model of the approval plan with the benefits of immediate access to preview the item gave us considerable control in regulating the purchases.” It requires constant attention. “However, if one did not monitor his or her ebook lists, one might accidentally acquire titles that may have been rejected otherwise.” Regardless of this pitfall the ebook plan was considered a success. “We found the ebook approval plan to be an easy option to filter content, offer flexibility with simple controls for selectors, and help prevent duplication.” As long as it was kept up with, the e-book approval plan was valuable.

E-book usage is closely tied to discovery tools. According to Lamothe (2013), “The addition of bibliographic records for each e-book has been demonstrated to significantly increase use.... Some libraries have even observed a doubling in usage.” Clearly the discovery of e-books has to be a simple process if they are to be of any use to faculty and students. Additionally according to Roncevic (2013), “E-book platforms frequently go through revisions as vendors revise their offerings, in terms of both content and purchasing plans.” Libraries need to make sure their e-book platforms are easy to use and their e-books are easy to find, in order for faculty and students to make use of them.

There have been several studies in the past few years focus on users’ preferred formats and whether they were more likely to use print or electronic materials. According to Koestner (2009), “When both print and electronic formats of a title are offered,

electronic journal use exceeds print use by a factor of at least ten (Schottlaender, et al., 2004). However, in the case of books, user preferences are a little less clear.” Also according to Hoseth (2012), “Perhaps because libraries are now maintaining blended collections of both print and e-books and are increasingly able to choose one format over the other when purchasing a given title, many studies have explored users’ format preferences.” These studies show differences between disciplines, although all disciplines are migrating towards e-books, particularly in regards to reference materials. Social scientists have been slower to embrace e-book use than other disciplines.

Hoseth (2012) states:

“A number of studies have considered faculty, researcher, and student e-book use and attitudes within specific disciplines. Rowlands et al. found that “attitudes towards e-books, print titles, and libraries vary, sometimes considerably so, by age, academic status, and (especially) by subject.”

According to Hoseth (2012), “A number of students and faculty expressed a strong desire for e-books to permit simultaneous access by multiple individuals.” Even though the social scientists had concerns they still desired e-book access. However, Hoseth (2012) found, “Another participant noted....she would also be likely to request a print copy from another library (via interlibrary loan or a regional catalog) if the CSU Libraries owned the item only in e-book format.” This individual was so attached to print materials that she would work around the libraries purchase of them. There could be several reasons that social scientists were more reluctant to use e-books. One is the way they work with text. Hoseth (2012), “This perception—that users interact differently with texts in electronic format, in a way that they perceive to be less intellectual and analytical—could be seen as a potential barrier to e-book use in the social sciences.” Another is that the faculty and students are used to finding print books, and find that e-books are harder to discover.

Hoseth (2012), “Additionally, students commented on using books because they are easier to find than journal articles, for leads (via the references) to journal articles, and as compilations of essays.” They do not see it as a more convenient option.

However this is a different situation in business and health sciences. Hoseth (2012), “Nicholas, Rowlands, and Jamali examined e-book use among business and management students...finding that business students are major and significant users of e-books and e-textbooks and that they view them more frequently, spend longer viewing them, [and] view more of them.” Also according to Jackson (2011), “Nursing has been a leader on campus in providing or requiring students to use electronic devices and access information via the Internet. This has required the Libraries to switch formats from print to electronic when available to remain current.” Both nursing and business are seen as leading disciplines in embracing the e-book.” According to Hoseth (2012), the different type of studying might account for the business students’ higher use of e-books. “This popularity, they noted, could be attributed to a number of factors, including the possibility that there are more business and management students, and “the nature of business studies means that e-books are attractive.”

Sometimes patrons will use both formats; e-books and print, depending on their location, circumstances, and what they are searching for. According Folb (2011) at the University of Pittsburgh, “Most surprising a large percentage of users (62.4%–78.7%) claimed they were flexible with respect to print or electronic format, stating that they would use their least preferred format if it were the most convenient to access at the time of need.” In fact the librarians at University of Pittsburgh found that the heaviest users of the library used both formats. Folb (2011), “A high volume of e-book use was also

associated with a high volume of print book use.” They also found that the distance was not as large a factor as they expected. “Some of the heaviest users of the e-book collection were within one block of a library, disproving the intuitive idea that e-book use would increase with distance from the library.” This means that distance is not the only measure of convenience of a certain format.

Some disciplines have been slower to embrace e-books than others, but the trends are similar across disciplines. Hoseth (2012), “Generally speaking, however, these studies tend to reveal few significant disciplinary differences.” One of these trends is that all disciplines are more favorable towards e-books for reference purposes, and less if they need to read the entire book. According to Folb (2011), “In Levine-Clark’s study, only 7.1 percent of more than 1,100 respondents who were e-book readers indicated that their typical e-book use behavior was to read a title in its entirety.” This was not the only study to find this factor of e-book use. Folb (2011) “Similarly, in the JISC study, Nicholas et al. found that most users “seem to dip in and out of e-books rather than reading them sequentially.” Likewise, Folb (2011), “Several studies suggest that users appear to seek e-books for specific purposes, “such as research, reference, and homework.” Reference is a popular type of e-book across disciplines.

### Methodology

Both E-book usage data and e-book purchase data was acquired from University of North Carolina at Chapel Hill, Health Sciences Library. These Excel spreadsheets contained data from books purchased in bulk package deals, books that were individually

acquired, and books that were both individually acquired and specifically requested by users. For the usage data COUNTER usage statistics were used for the year 2013.

According to the COUNTER website, “It is widely agreed by producers and purchasers of information that the use of these resources should be measured in a more consistent way.” This deals with the issues discussed earlier, in that for comparison it has been insured that the same statistics are being compared. COUNTER goes on to say, “Librarians want to understand better how the information they buy from a variety of sources is being used; publishers want to know how the information products they disseminate are being accessed.” For this reason all of the instances of use, use the COUNTER format.

For the package data, Springer titles were chosen. Several different Springer packages have been purchased by UNC; the packages were not individually compared. Books using the SpringerLink platform are not individually purchased at the Health Sciences Library. For the individually purchased and user requested titles, Wiley Online Library and EBRARY platforms were chosen. The collection development librarian at the UNC Health Sciences Library individually selected these titles for purchase, sometimes at the request of a patron.

A random sample of one hundred titles was collected using an online number generation to select from the individually purchased book titles that used either the Wiley Online Library or the EBRARY platform. A random sample of one hundred was also collected from the titles purchased in a bulk package. The random number list used to gather the random sample was not the same for each set, taking into account the much larger size of the Springer package dataset. Thirty-five titles were collected that were

specifically requested by users that use either the Wiley Online Library or the EBRARY platform.

The instances of usage during 2013 were compared using the JMP program. It was hypothesized that the user requested titles would have the highest usage, with the individually purchased titles being the category with the next highest usage. Finally the package titles would have the fewest instances of usage.

### Results

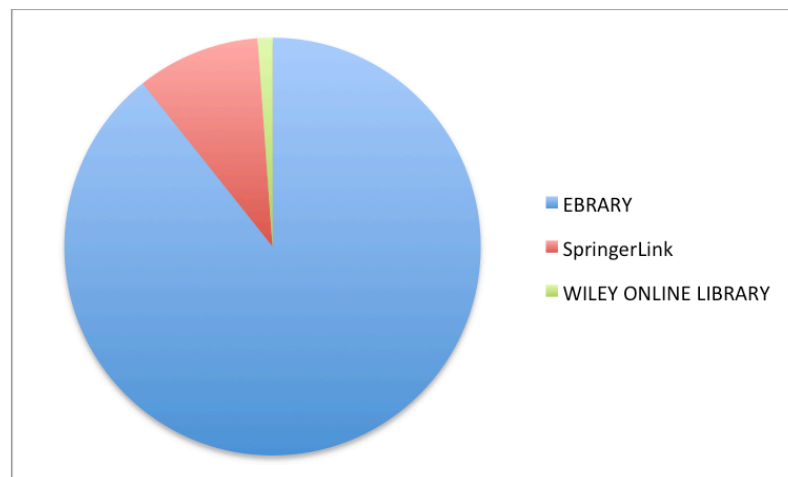
An F-test was run comparing the type of purchase, versus usage. Significance was measured as  $\text{Prob}>F < 0.001$ . The result of the test was F Ratio= 8.9840 and  $\text{Prob}>F=0.0002^*$ . Purchase type has a significant effect on instances of use.

The influence of the platform was expected, but not as much as the results showed. In fact, the Wiley Online Books were used less often than the SpringerLink books.

Platform	N	% of Total	Min	Max	Mean	Median
EBRARY	95	0.892809545	0	9034	351.7	23.5
SpringerLink	100	0.095671765	1	1264	30.15	6
WILEY ONLINE LIBRARY	40	0.01151869	0	97	9.075	0.5

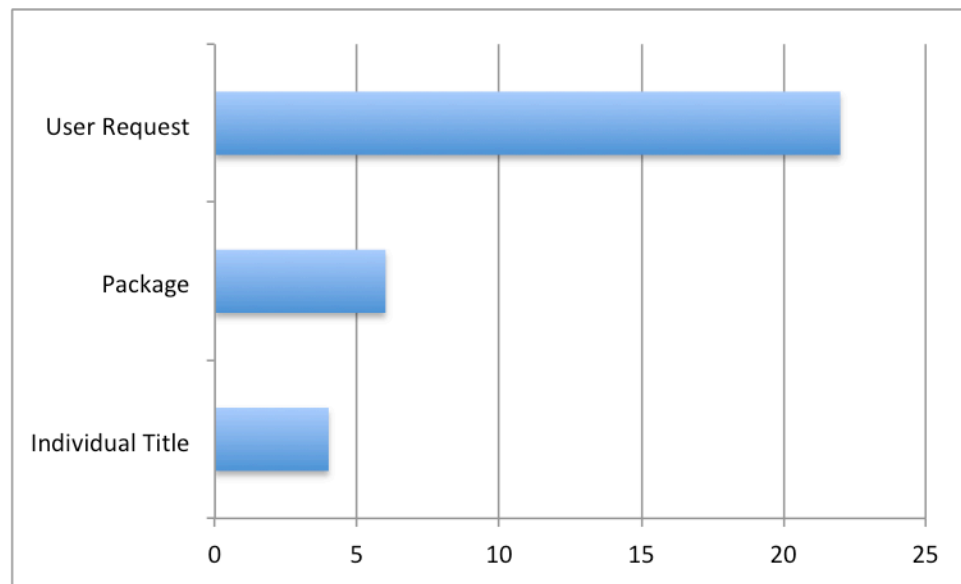
The EBRARY books heavily influence the overall significance of the type of acquisition. EBRARY books make up only 40.4% of the books analyzed (n=95) but 89.3% of the instances of use. Both the mean and the median are much higher on the EBRARY books. The mean of EBRARY usage instances was 351.7 and the median was 23.5.

This is in contrast to the SpringerLink books, which were 42.6% of the books analyzed and made up only 9.6% of the instances of use. The mean of SpringerLink usage instances was 30, and the median was 6.

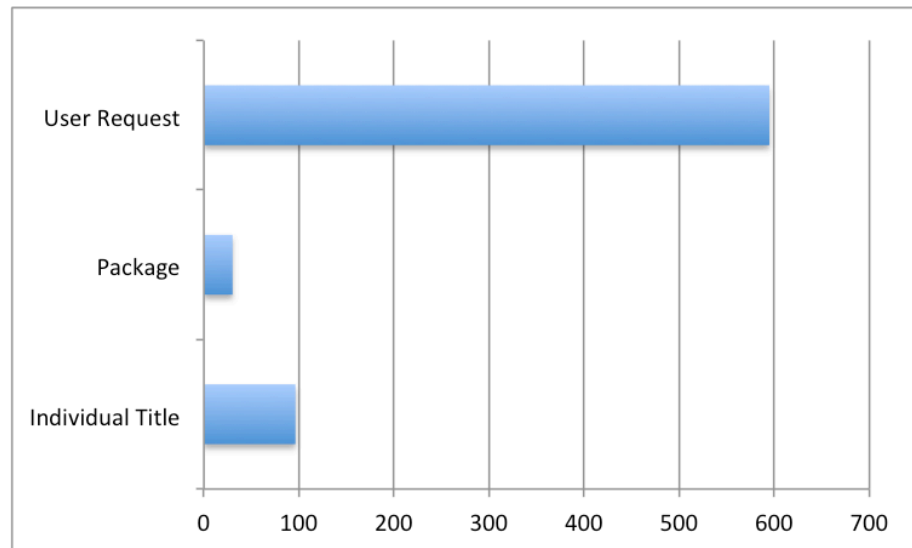


Finally Wiley Online Library books were 17.0 percent of the books analyzed, and mad up only 1.2% of the total instances of use. The mean of Wiley Online Library books usage instances was 9.1 and the median was 0.5.





This chart compares medians for each of the various types of book purchases.

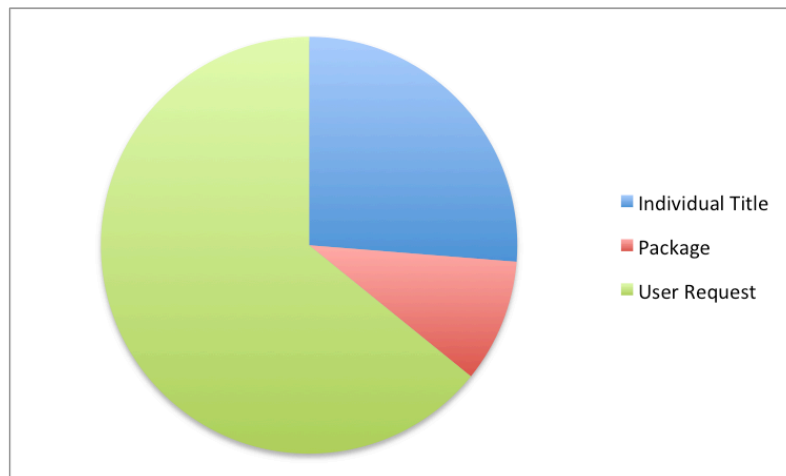


This chart compares the means of the use of the various types of book purchasing options. As expected with e-books accessed, these are much higher.

Type	N	Min	Max	% of Total	Mean	Median
Individual Title	100	0	2674	0.262676906	96.25581395	4
Package	100	1	1264	0.095671765	30.15	6
User Request	35	0	9034	0.64165133	594.7352941	22

If the overall usage the e-books of the different types of purchasing is compared, both the mean and the percentage of total usage is higher for the individual titles and the user requests, although the median is lower than the package deal for the individual titles.

Individual title purchases make up 42.6% of the books analyzed and have 26.3% of the instances of usage. They have a mean of 96.3 instances of usage and a median of 4. This is in contrast to books purchased as part of a package, which are also 42.6% of the books analyzed, but only 9.6% of total instances of use. The mean of package books is 30.2 and they have a median of 6. Finally books that were requested by users, make up only 14.9% of the books analyzed, but 64.2% of instances of usage. They have a mean of 594.73 and a median of 22.



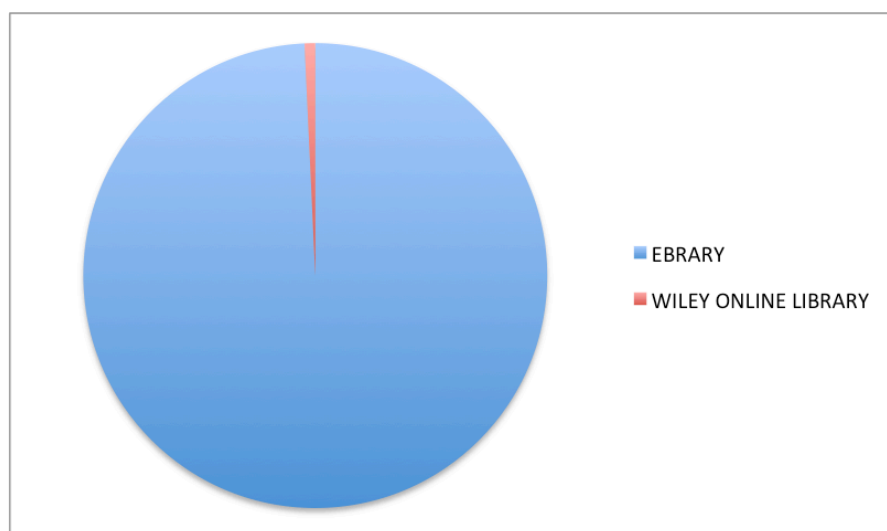
This graph shows a visual representation of the percentage of overall use that each type of purchased title has. This is highly influenced by platform, as well as purchase type, but user requests are higher overall, even with the same platforms.

Platform	N	Min	Max	% of Total	Mean	Median
EBRARY	25	0	9034	99.26%	836.2916667	102
WILEY ONLINE LIBRARY	10	0	97	0.74%	15	2

This table is only analyzing the user requested books. The Wiley Online Library books are 28.6% of the number of user requested books analyzed, but only 0.74% of the total instances of usage for user requested books. The EBRARY books are 71.4% of the books analyzed and make up 99.26% of the total instances of usage for user requested books.

As can be seen by comparing the tables, both the means and medians are significantly higher for both platforms. For user requested books, the mean of EBRARY books' instances of use is 836.3, as compared to 351.7 of the total means of EBRARY books instances of usage. The median of EBRARY books is 102 of user requested books, as opposed to 23.5 of total instances of usage for EBRARY books.

The Wiley Online have a similar pattern, even though the numbers are much lower. The mean for user requested books usage instances for the Wiley Online Library platform is 15 as opposed to 9.1 for the total instances of usage for the Wiley Online Library platform. The median for user requested books instances of use is 2 as opposed to 0.5 for the total instances of usage for the Wiley Online Library platform.



Overall the package books have the lower average usage, but are more consistent between titles than the individually purchased books. The individually purchased titles have higher average instances of use, but have more varied instances of use between titles than the package books. Finally the user requested books have higher instances of use overall uses in all categories, even though there are few of them. These books are being used at much higher rates.

### Limitations

Some of the study limitations -- are that the e-book data was not always entirely consistently available in the same format, for this reason EBSCOhost books, which make up a significant part of the libraries individually purchased books were not used, which would have strengthened the study.

One limitation of this study is that books purchased in package deals are viewed on a different platform influencing a patron's ease of use. This was acknowledged during

the results, but further research is needed to separate the influence of the platform from the purchase type.

### Conclusions

There is evidence to suggest that individually purchased titles in the health sciences have higher instances of use, compared to e-books acquired in large package deals. This is heavily influenced by the platform, so in order to make the most out of e-books, requires librarians to support and call for easy to use platforms.

It is important to analyze the large packages to make sure that there is enough useful material in the package that the libraries users will find it to be of interest. As the health science librarians struggle to provide electronic access to patrons in a timely manner, these are some other factors to keep in mind. As the Ebrary statistics reflect with an easy to use platform and individual purchase options, a library could greatly increase its instances of accessing e-books.

Additionally the extremely high comparative use of user requested e-books is something to pay attention to, although it is important to note that on the Wiley Online Platform, even some of those books did not see use, but overall, the statistics show that these books are used often, perhaps in classes, perhaps for research, but overall it is encouraging with the move towards patron driven acquisition that these titles are deemed worth looking at in high numbers.

Further studies could be done in other types of libraries and information settings. Electronic resources are embraced in the health sciences, and it would be valuable to see if these same trends hold in other academic libraries, that serve humanities and social

sciences, which have been more reluctant to use e-books. Additionally a larger study could be done, that took into account the platform, and if possible compared usage between different purchasing types on the same platform. This option might not be offered by the vendor, but perhaps if enough demand is generated, all vendors would support individually purchased e-book options on their platforms in the future. This study does not take into account cost-per use, another valuable dimension of e-book access studies. A future study could compare both the accessed e-books, and make sure that those accesses are cost effective.

There is valuable access data being collected by vendors and libraries, and putting this data to effective use when making purchase decisions is vital in the current academic environment, which is regularly facing budgetary cuts and justification for their budget. This study and other similar studies provide look at statistics in order to make recommendations about purchasing various materials, and how but each library has its own community which it serves, and it is important to analyze data that is provided in that community.

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